

Appl. No. 10/710,399
Amtd. dated March 30, 2006
Reply to Office action of January 06, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

5 Listing of Claims:

Claim 1 (original): A semiconductor package which is positioned on a first substrate comprising:

a second substrate having a first surface and a second surface;

a chip positioned on the first surface of the second substrate;

10 a plurality of first bonding balls positioned on the second surface of the second substrate and arranged in a line along a first direction for connecting the second substrate to the first substrate; and

at least a dummy bonding bar positioned on the second surface of the second substrate for connecting the second substrate to the first substrate and preventing the semiconductor

15 package from inclining to one side.

Claim 2 (original): The semiconductor package of claim 1 wherein the second surface has a rectangular shape, and the first direction is parallel to a long side of the second surface.

20 Claim 3 (original): The semiconductor package of claim 2 wherein the longest side of the dummy bonding bar is approximately perpendicular to the long side of the second surface for preventing the semiconductor package from inclining.

Claim 4 (original): The semiconductor package of claim 3 wherein a length of a short side 25 of the second surface is less than 1000 μ m.

Claim 5 (original): The semiconductor package of claim 1 wherein the dummy bonding

Appl. No. 10/710,399
Amtd. dated March 30, 2006
Reply to Office action of January 06, 2006

bar has a planar third surface connected to the first substrate for preventing the semiconductor package from inclining.

Claim 6 (original): The semiconductor package of claim 1 further comprising a plurality of first bonding pads, each of which being positioned between the second surface and each of the first bonding balls, and at least a dummy bonding pad positioned between the second surface and the dummy bonding bar.

Claim 7 (original): The semiconductor package of claim 6 further comprising a plurality of second bonding pads positioned on the second surface and a plurality of second bonding balls respectively positioned on the second bonding pads, the second bonding balls being interlaced with the first bonding balls.

Claim 8 (original): The semiconductor package of claim 7 wherein a height of the dummy bonding bar is the same as a height of each of the first bonding balls and the second bonding balls.

Claim 9 (currently amended): The semiconductor package of claim 7 wherein the first bonding balls, the second bonding balls and the dummy bonding bar respectively comprise a tin (Sn) based metal containing lead (Pb), and a melting point of the tin based metal is between 180°C and 235°C-235°C.

Claim 10 (currently amended): The semiconductor package of claim 9 wherein the first bonding pads, the second bonding pads and the dummy bonding pad respectively comprise a tin based metal, which contains no lead and has a melting point between 180 °C and 235°C-235°C.

Claim 11 (original): The semiconductor package of claim 1 wherein the first substrate

Appl. No. 10/710,399
Amtd. dated March 30, 2006
Reply to Office action of January 06, 2006

comprises a build-up printed circuit board, a co-fired ceramic substrate, a thin-film deposited substrate, or a glass substrate.

Claim 12 (original): The semiconductor package of claim 1 wherein the chip is an image sensor chip.
5